

## SCIENCE 21 CURRICULUM MAP

**Grade Level: Third**

**Essential Question for Grade Level: What cycles do we observe in the natural world?**

Unit/Timeframe	Unit Essential Questions	Unit Objectives	Concepts/Major Understandings	NYS Performance Indicators
UNIT 1-How a scientist investigates PLANT CYCLES  October-December	<ul style="list-style-type: none"> <li>• What do we need to do to investigate problems like scientists?</li> <li>• How do we show respect for living plants and take good care of them?</li> <li>• Why do plants need the parts that they have?</li> <li>• Why are life cycles of plants and animals important for life on Earth to continue?</li> </ul>	<p><b>Students will be able to describe how a scientist investigates plant cycles. (Unit 1)</b></p> <ol style="list-style-type: none"> <li>1. Be able to engage in the process of science that includes observing, questioning, predicting, hypothesizing, conducting investigations, analyzing data and communicating their findings in a variety of ways.</li> <li>2. Be able to develop a science journal in order to record the questions, processes and progress of their investigations.</li> <li>3. Be able to investigate the germination process of seeds.</li> <li>4. Be able to investigate and identify the parts and functions of plants (seeds, roots, stem, leaves, flower).</li> <li>5. Be able to summarize the life cycle of a typical plant.</li> </ol>	<ol style="list-style-type: none"> <li>1. Scientific inquiry involves proposing appropriate questions, making predictions that can be tested, and developing good explanations that are based on evidence from investigations.</li> <li>2. Many plants follow a life cycle with distinct stages that begins with growth from a seed and continues to the production of seeds.</li> <li>3. A mature plant produces many seeds, which can each grow into another plant. Often, the seeds are transported to another location, by a plant's own mechanism, by the wind or by animal dispersal.</li> <li>4. Plants have structures, such as roots, stems, leaves and flowers that enable the plant to carry out its life functions.</li> </ol>	SI 2, SI 3 SI 1 LE 3.1B LE 3.1B LE 4.1A, 4.1B

## SCIENCE 21 CURRICULUM MAP

**Grade Level: Third**

**Essential Question for Grade Level: What cycles do we observe in the natural world?**

Unit/Timeframe	Unit Essential Questions	Unit Objectives	Concepts/Major Understandings	NYS Performance Indicators
UNIT 2-How a scientist Investigates Electricity January-March	<ul style="list-style-type: none"> <li>• What would a day in your life be like without electricity?</li> <li>• How can we be safe with electricity?</li> <li>• Why do you have to choose just the right components and attach them in a certain way for an electrical circuit to work? What can you invent to use an electric circuit?</li> </ul>	<p><b>Students will be able to describe how a scientist investigates electricity. (Unit 2)</b></p> <ol style="list-style-type: none"> <li>1. Be able to identify two forms of electricity as static electricity and current electricity.</li> <li>2. Be able to investigate the flow and control of electricity.</li> <li>3. Construct, draw, identify and label a simple circuit and its parts.</li> <li>4. Trace and illustrate the path or flow of electricity through a circuit.</li> <li>5. Construct, observe and explore how switches control electrical flow (open and closed circuits).</li> <li>6. Be able to observe, describe, draw and label a light bulb and its parts.</li> <li>7. Be able to investigate and identify conductors and non-conductors.</li> <li>8. Be able to construct, explore, identify and compare series and parallel circuits.</li> <li>9. Be able to explore the application and safe use of electricity.</li> <li>10. Be able to construct a circuit board.</li> </ol>	<ol style="list-style-type: none"> <li>1. A complete electric circuit is required for electricity to be converted into light and heat.</li> <li>2. A complete circuit can be constructed in more than one way using the same materials (i.e. series circuit and parallel circuit). These circuits have different properties.</li> <li>3. Some materials conduct electricity and are called conductors; others do not conduct electricity and are called insulators.</li> <li>4. A battery provides the chemical energy that is converted into electrical energy in a circuit.</li> </ol>	<p>PS 4.1A, C,E,D</p> <p>PS 4.1B PS 4.1C PS 4.1E PS 4.1E PS 4.2B PS 4.1C, 4.1D</p> <p>PS 4.2A, 4.2B</p> <p>PS 4.2B PS 4.2B</p>

## SCIENCE 21 CURRICULUM MAP

**Grade Level: Third**

**Essential Question for Grade Level: What cycles do we observe in the natural world?**

Unit/Timeframe	Unit Essential Questions	Unit Objectives	Concepts/Major Understandings	NYS Performance Indicators
<p>Unit 3 : How a Scientist investigates Water Cycles  April-June</p>	<ul style="list-style-type: none"> <li>• What are the sources and uses of water?</li> <li>• How does water interact with other substances?</li> <li>• What is a water cycle?</li> <li>• How does water change from one form to another?</li> <li>• How does water affect our weather?</li> <li>• Why is it important to preserve our sources and quality of water?</li> </ul>	<p><b>Students will be able to describe how a scientist investigates water cycles. (Unit 3)</b></p> <ol style="list-style-type: none"> <li>1. Be able to determine uses of water and identify sources of water.</li> <li>2. Be able to explore how water changes states (i.e., solid, liquid and gas) from one form to another.</li> <li>3. Read a thermometer in both Fahrenheit and Celsius units.</li> <li>4. Determine the relationship between temperature and the different states of water.</li> <li>5. Be able to create a model of a water molecule.</li> <li>6. Be able to create a model of the water cycle to learn about evaporation, condensation and precipitation.</li> <li>7. Be able to describe the role of water in some weather phenomena.</li> <li>8. Be able to explore the relationship of the water cycle to weather.</li> <li>9. Observe and record data on the different types of clouds and their relationship to weather.</li> <li>10. Identify the various types of precipitation.</li> <li>11. Create a cloud.</li> <li>12. Be able to analyze methods of water purification and conservation</li> </ol>	<ol style="list-style-type: none"> <li>1. Some common substances, such as water, can be changed from one state to another by heating and cooling.</li> <li>2. Water in its three states moves from one place on earth to another in a continuous cycle called the water cycle. The water cycle includes the processes of evaporation, condensation, precipitation and the movement of water over and into the ground.</li> <li>3. One common weather phenomenon is precipitation, which can be in the form of rain, sleet, snow or hail.</li> <li>4. Clouds are made of condensed water vapor in the form of drops of liquid or crystals of ice. Rain falls from clouds when the drops of water become too heavy to stay suspended in the sky and are pulled toward the earth by gravity.</li> </ol>	<p>PS 2.1C PS 2.1C PS 3.1C, D PS 3.1 B,C, PS 2.1C PS 2.1C PS 2.1B,C PS 2.1B PS 2.1B PS 2.1B PS2.1D PS 2.1C</p>

## SCIENCE 21 CURRICULUM MAP

### Grade Level: Third

**Essential Question for Grade Level:** What cycles do we observe in the natural world?

Why are the life cycles of animals important for life on Earth to continue?

How is the life of an animal affected by the living and the nonliving parts of its environment?

Unit/Timeframe	Unit Essential Questions	Unit Objectives	Concepts/Major Understandings	NYS Performance Indicators
Unit 4:  How a Scientist investigates Animal Cycles  April-June	<ul style="list-style-type: none"> <li>• How do we take good care of living things?</li> <li>• What are the characteristics of animals?</li> <li>• What do animals need to live and grow?</li> <li>• How do animals use their body parts to get the things they need to live and grow?</li> <li>• How do animals go through a cycle in their lifetimes?</li> <li>• How are humans and other animals dependent upon one another?</li> </ul>	<p><b><u>Unit 4</u></b>  <b>Students will be able to describe how a scientist investigates animal cycles. (Unit 4)</b></p> <ol style="list-style-type: none"> <li>1. Be able to identify the characteristics of living organisms and what they need to survive.</li> <li>2. Be able to investigate the life cycle of a butterfly.</li> <li>3. Identify the different stages of its life cycle.</li> <li>4. Identify the different body parts of an adult butterfly and relate them to other insects.</li> <li>5. Observe, measure and record data for the caterpillar as it grows and progresses through its life cycle.</li> <li>6. Be able to investigate how butterflies interact with their environment.</li> <li>7. Be able to explore the interdependence of humans and butterflies, and the similarities and differences with the life cycle of both organisms.</li> </ol>	<ol style="list-style-type: none"> <li>1. All animals need food, water, and air to survive.</li> <li>2. All animals go through a life cycle. The stages of the life cycle differ for different types of animals; food is necessary for the growth of the animal in every stage.</li> <li>3. Some organisms, such as butterflies, undergo changes early in their development in which the developing organism looks very different from the adult. The offspring of other organisms, such as humans, have features that are similar to the mature adult.</li> <li>4. All the living and nonliving parts of the environment in which an animal lives, including other animals, plants, climate, water, and air, affect the life of that animal.</li> <li>5. Some animals use camouflage to protect themselves and survive in their environment.</li> </ol>	LE 1.1A,B LE 4.1A LE 4.1E,F LE 4.1E-G